C L A I M S

1. A method for creating a library of Crosslinked Enzyme Aggregates (CLEAs), wherein each CLEA is prepared according to a reaction process comprising an aggregation step for aggregating enzymes and a crosslinking step for crosslinking the enzymes, the method comprising the steps of:

a. creating a basic recipe for a reaction process for preparation of a CLEA, the basic recipe at least describing a reactant, the aggregation step and the crosslinking step;
b. selecting at least one parameter in the basic recipe, which parameter is to be varied, the at least one parameter being chosen from a group of parameters relating to the reactant, the aggregation step and the crosslinking step or a combination of two or more thereof;
c. generating a plurality of parameter values for the at least one to be varied parameter;
d. creating a set of recipes comprising a first recipe and at least one second recipe, by combining the basic recipe with the plurality of parameter values, the said first and second recipe differing from one another by at least one parameter value;
e. aggregating according to each recipe of the set of recipes; and
f. crosslinking according to each recipe of the set of recipes.

2. The method according to claim 1, characterised in that step c. comprises the steps of:
c1. defining a range or an increment for varying the at least one parameter value; and
c2. generating a plurality of parameter values for the at least one to be varied reaction condition based on the range or increment.

3. The method according to claim 1 or 2, characterised in that at least two parameters are varied, and in that step c comprises the step of generating a plurality of parameter values for the at least two parameters making use of a statistical analysis.

4. The method according to any of the preceding claims, characterised in that at least one of the parameters is chosen from a group of parameters influencing an initial condition, the group comprising an enzyme concentration or enzyme dosage, an enzyme surface property, an
5   enzyme purity, an enzyme form and a pH.

5. The method according to any of the preceding claims, characterised in that at least one of the parameters is chosen from a group of parameters influencing the aggregation step, the group comprising a
10   precipitant concentration, a precipitant type, a precipitation time, a precipitant addition speed, a pH, an ionic strength, a temperature, an intensity of stirring, and a stirring time.

6. The method according to any of the preceding claims, characterised
15   in that at least one of the parameters is chosen from a group of parameters influencing the crosslinking step, the group comprising a crosslinker concentration, a crosslinker addition speed, a crosslinker type, a crosslinking time, a type of quenching agent, an addition speed of the quenching agent, a dosage of quenching agent, a
20   molar ratio of crosslinker to enzyme, a pH, an ionic strength, a temperature, an intensity of stirring, and a stirring time.

7. The method according to any of the preceding claims, characterised in that the reaction process comprises an addition step for adding an
25   additive, the basic recipe describing the addition step.

8. The method according to claim 7, characterised in that step b) comprises the step of b1) selecting at least one parameter relating to the addition step.
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9. The method according to claim 8, characterized in that at least one of the parameters is chosen from a group of parameters influencing an additive condition, the group comprising a type of additive, an additive concentration, an additive dosage, an additive
35   form and a pH.

10. The method according to any of the preceding claims, characterised in that step e) and f) are performed in parallel for all recipes of the set of recipes.

5   11. The method according to any of the preceding claims, characterised in that the method comprises the further step of isolating each CLEA from a respective reactor.

12. A system for creating a library of Crosslinked Enzyme Aggregates
10   (CLEAs), wherein each CLEA is prepared according to a reaction process comprising an aggregation step for aggregating enzymes and a crosslinking step for crosslinking the enzymes, the system comprising:

15   a. means for creating a basic recipe for a reaction process for preparation of a CLEA, the basic recipe at least describing a reactant, the aggregation step and the crosslinking step;
b. means for selecting at least one parameter in the basic recipe, which parameter is to be varied, the at least one parameter being
20   chosen from a group of parameters relating to the reactant, the aggregation step and the crosslinking step or a combination of two or more thereof; '
c. means for generating a plurality of parameter values for the at least one to be varied parameter;
25   d. means for creating a set of recipes comprising a first recipe and at least one second recipe, by combining the basic recipe with the plurality of parameter values, the said first and second recipe differing from one another by at least one parameter value;
e. means for aggregating according to each recipe of the set of
30   recipes; and
f. means for crosslinking according to each recipe of the set of recipes.

13. The system according to claim 9, characterised in that means for
35   generating a plurality of parameter values comprises:
c1. means for defining a range or an increment for varying the at least one parameter value; and

c2. means for generating a plurality of parameter values for the at least one to be varied reaction condition based on the range or increment.

5   14. The system according to claim 12 or 13, characterised in that at least two parameters are varied, and in that the means for generating a plurality of parameter values comprise: means for generating a plurality of parameter values for the at least two parameters making use of a statistical analysis.

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15. The system according to any of claims 12-14, characterised in that the means for aggregating and the means for crosslinking are arranged for aggregating and crosslinking in parallel for all recipes of the set of recipes.

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16. The system according to any of claims 12-15, characterised in that the system further comprises:
means for isolating each CLEA a the respective reactor.